WHAT IS CLAIMED IS:

1. A process for registering a plurality of discrete components of a continuously moving second layer to reference marks on a continuously moving first layer, comprising the steps of:

providing a continuously moving first layer including a plurality of reference marks selectively positioned thereon;

sensing a distance between two successive reference marks on the first layer and generating a signal in response to the sensed distance;

providing a second layer having a plurality of continuously moving discrete components;

sensing a distance between two successive components of the second layer and generating a signal in response to the sensed distance;

synchronizing a feed rate of the components of the second layer to a feed rate of the reference marks on the first layer;

aligning the components of the second layer a set distance to correspond with the reference marks on the first layer;

superimposing the discrete components of the second layer onto the continuously moving first layer; and

sensing the position of the superimposed components of the second layer relative to the corresponding reference marks on the first layer.

2. The process of Claim 1 further comprising the step of correcting a setpoint of placement control for components of the second layer subsequent to superimposing the discrete components of the second layer onto the continuously moving first layer.

3. The process of Claim 1 comprising the step of aligning the components of the second layer and the corresponding reference marks on the first layer in direct alignment with one another.

4. The process of Claim 1 wherein the first layer is preprinted with at least one reference mark per product.

5. The process of Claim 1 further comprising the steps of:

providing a continuously moving third layer formed from a plurality of continuously moving individual components; and

superimposing the continuously moving third layer onto the continuously moving first layer subsequent to superimposing the discrete components of the second layer onto the continuously moving first layer.

6. The process of Claim 1 further comprising the steps of replacing the continuously moving first layer with a new continuously moving first layer including a plurality of reference marks selectively positioned thereon, wherein the reference marks on the new first layer are spaced apart at a distance different from the distance between successive reference marks on the original first layer; and synchronizing the feed rate of the components of the second layer to a feed rate of the reference marks on the new first layer.

7. A process for registering a plurality of discrete components of a continuously moving second layer to reference marks on a continuously moving first layer, comprising the steps of:

providing a continuously moving first layer including a plurality of reference marks selectively positioned thereon;

sensing each of the reference marks on the first layer, and generating a reference mark signal in response thereto;

measuring a distance between two successive reference mark signals;

conveying a plurality of discrete components of a second layer toward the continuously moving first layer;

sensing each of the components of the second layer, and generating a component signal in response thereto;

measuring a distance between two successive signals generated in response to the components of the second layer;

generating a corrective control signal;

adjusting a feed rate of the discrete components of the second layer in response to the corrective control signal; and

superimposing the discrete components of the second layer onto the continuously moving first layer.

8. The process of Claim 7 further comprising the steps of determining actual position of the superimposed components relative to the corresponding reference marks, and correcting a setpoint of placement control for components of the second layer subsequent to superimposing the discrete components of the second layer onto the continuously moving first layer.

9. The process of Claim 7 further comprising the step of filtering out signal anomalies.

10. The process of Claim 7 further comprising the step of calculating a standard deviation of distances between the actual position of the superimposed components relative to the corresponding reference marks and a preset target position.

11. The process of Claim 10 further comprising the step of comparing the standard deviation to a preset limit of deviation.

12. The process of Claim 11 further comprising the step of determining a new setpoint of placement control of the components.

13. The process of Claim 7 further comprising the steps of:

providing a plurality of continuously moving individual components;

applying a first adhesive intermittently to at least one continuously moving individual component by detecting a reference mark on the continuously moving first layer and, in response, turning on an adhesive applicator at a set time for a set duration;

joining the at least one continuously moving individual component to at least one other continuously moving individual component to form a continuously moving third layer; and

superimposing the continuously moving third layer onto the continuously moving first layer subsequent to superimposing the discrete components of the second layer onto the continuously moving first layer.

14. The process of Claim 7 further comprising the steps of replacing the continuously moving first layer with a new continuously moving first layer including a plurality of reference marks selectively positioned thereon, wherein the reference marks on the new first layer are spaced apart at a distance different from the distance between successive reference marks on the original first layer; generating a reference mark signal in response to each of the reference marks on the new first layer; and generating a new corrective control signal.

15. An apparatus for registering a plurality of discrete components of a continuously moving second layer to reference marks on a continuously moving first layer, comprising:

a device for providing a continuously moving first layer including a plurality of reference marks selectively positioned thereon;

a device for conveying a continuously moving second layer having a plurality of discrete components toward the continuously moving first layer;

a sensor for sensing each of the reference marks on the first layer, and a device for generating a reference mark signal in response thereto;

a device for measuring the distance between two successive reference mark signals;

a sensor for sensing each of the components of the continuously moving second layer, and a device for generating a component signal in response thereto;

a device for measuring the distance between two successive component signals;

a device for generating a corrective control signal;

a device for adjusting a feed rate of the discrete components of the continuously moving second layer in response to the corrective control signal;

a device for superimposing the discrete components of the continuously moving second layer onto the continuously moving first layer; and

a device for determining actual position of the superimposed components relative to the corresponding reference marks.

16. The apparatus of Claim 15 further comprising a device for correcting a setpoint of placement control of the components in response to a determination that the actual position of the superimposed components is not a desired position relative to the corresponding reference marks.

17. The apparatus of Claim 15 further comprising a device for filtering out signal anomalies.

18. The apparatus of Claim 15 further comprising a device for calculating a standard deviation of distances between the actual position of the superimposed components relative to the corresponding reference marks and a preset target position.

19. The apparatus of Claim 18 further comprising a device for comparing the standard deviation to a preset limit of deviation.

20. The apparatus of Claim 19 further comprising a device for determining a new setpoint of placement control of the components.

21. The apparatus of Claim 15 further comprising a device for superimposing a plurality of discrete components over the first continuously moving layer and the discrete components of the second layer.

22. A process for registering a plurality of discrete components of a continuously moving second layer to reference marks on a continuously moving first layer, comprising the steps of:

providing a continuously moving first layer including a plurality of reference marks selectively positioned thereon;

sensing a distance between two successive reference marks on the first layer and generating a signal in response to the sensed distance;

providing a second layer having a plurality of continuously moving discrete components;

sensing a distance between two successive components of the second layer and generating a signal in response to the sensed distance;

synchronizing a feed rate of the components of the second layer to a feed rate of the reference marks on the first layer;

aligning the components of the second layer a set distance to correspond with the reference marks on the first layer;

superimposing the discrete components of the second layer onto the continuously moving first layer; and

applying a first adhesive intermittently to at least one continuously moving individual component or layer by detecting a reference mark on the continuously moving first layer and, in response, turning on the adhesive applicator at a set time for a set duration.

23. An apparatus for registering a plurality of discrete components of a continuously moving second layer to reference marks on a continuously moving first layer, comprising:

a device for providing a continuously moving first layer including a plurality of reference marks selectively positioned thereon;

a device for conveying a continuously moving second layer having a plurality of discrete components toward the continuously moving first layer;

a sensor for sensing each of the reference marks on the first layer, and a device for generating a reference mark signal in response thereto;

a device for measuring the distance between two successive reference mark signals;

a sensor for sensing each of the components of the continuously moving second layer, and a device for generating a component signal in response thereto;

a device for measuring the distance between two successive component signals;

a device for generating a corrective control signal;

a device for adjusting a feed rate of the discrete components of the continuously moving second layer in response to the corrective control signal;

a device for superimposing the discrete components of the continuously moving second layer onto the continuously moving first layer;

a device for applying adhesive intermittently to at least one of the continuously moving individual components; and

a sensor that detects a reference mark on the continuously moving first layer and, in response, turns on the at least one adhesive applicator at a set time for a set duration.